Input-Output Relation	Linear	Time-Invariant
$y(t) = \frac{d}{dt}(x)$	yes	yes
$y(t) = \frac{d^2}{dt^2}(x)$	yes	yes
$y(t) = (\frac{d}{dt}(x))^2$	no	yes
$y(t) = \frac{dx}{dt} + x$	yes	yes
$y(t) = x1 + x2$	yes	yes
$y(t) = x(t - T)$	yes	yes
$y(t) = cos(2\pi ft)x(t)$	yes	no
$y(t) = x(-t)$	yes	no
$y(t) = x^2(t)$	no	yes
$y(t) = \|x(t)\|$	no	yes
$y(t) = mx(t) + b$	no	yes

Table 2.1 Linear, Time-Invariant Table